

MASSACHUSETTS
AGRICULTURAL
COLLEGE

ESTABLISHED IN 1861

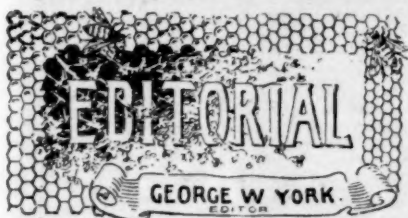
THE AMERICAN

OLDEST BEE PAPER
IN AMERICA

BEE JOURNAL

Weekly, \$1 a Year. } DEVOTED EXCLUSIVELY—
—TO BEE-CULTURE. } Sample Copy Free.

VOL. XXXIII. CHICAGO, ILL., APR. 12, 1894. NO. 15.



Dreamy Days are comin'—
Feel 'em in the breeze;
Bumble-bees a hummin'
With the other kind of bees.

Rivers runnin' lazy
By the sleepy dells;
Violet an' daisy;
Tinklin' cattle bells.

All the world a-beamin'—
River, mountain, lake;
Dreamin', dreamin', dreamin'—
Never want to wake.
—*Atlanta Constitution.*

Mr. S. T. Pettit's picture is printed from a nice half-tone engraving on the front cover of the April *Canadian Bee Journal*. He was President of the Ontario Bee-Keepers' Association for 1886-87.

Mr. Frank Benton, the apiarist of our Government at Washington, has sent us copies of two valuable essays read by him before the Entomological Society of that city. They are entitled, respectively, "The Death's-Head Moth in Relation to Honey-Bees," and "The Curious Defenses Constructed by *Melipona* and *Trigona*." Doubtless any one so desiring, can secure these essays, by addressing Mr. Benton, in care of the Agricultural Department, Washington, D. C.

Something for Beginners.—Mrs. Atchley will begin, in a week or two, in her department—"In Sunny Southland"—a full and complete description of bee-keeping for beginners. This will be good news for many of our new subscribers. It promises to be as interesting as a story, and as practical and helpful as anything well can be for those who follow her methods as described from week to week. Although what Mrs. Atchley may have to say will apply mainly to bee-keeping in the South, yet much of it will be useful in any climate or locality. Look out for the first chapter, and then follow it up closely, and profit by it.

Great Britain, in 1892, imported honey valued at about \$320,000. Now they are trying to prevent the importing of foreign honey—at least a discussion is being carried on in the *British Bee Journal* looking toward such prevention. It must be that our friends across the "big pond" think they can "keep sweet" enough without any outside help. Well, maybe they can. But how in the world can they live without any of that wonderful Canadian honey? Perhaps they'll try to be contented with their own honey, as we United States folks do—and "let well enough alone."

Bro. Root reports that out of their 125 colonies not one has been lost in wintering up to April 1st. He says: "Indeed they are in better condition than they were last fall." At the same time a year ago, their loss was 20 per cent., and the balance were in bad condition. So now Bro. Root feels "happy."

A report of the meeting will appear soon in the BEE JOURNAL.

Queenless Colonies, the *Progressive Bee-Keeper* says, should be given a frame of hatching brood before introducing a queen. If no young bees are given them, they will dwindle away, and sometimes all die before any more bees hatch. Unless you desire to increase your number of colonies at the expense of honey, it doesn't pay to give a queen to queenless colonies, unless they are very strong.

I believe we practice and preach that kind of charity that "is kind, and suffereth long;" and that is the reason why we did not publish the analysis before; but the affidavit below, of a more recent case, it seems to me, *demands* that the bee-keepers of our land be notified of these things.

The State of Ohio, Cuyahoga Co., ss.

Personally appeared before me, John C. Hemmeter, a Notary Public for and within said County, Geo. G. Willard, who being by me first duly sworn upon his said oath says:

That he is conducting a general merchandise business at No. 270 Pearl Street, in the city of Cleveland, County and State aforesaid.

That on or about the 15th day of November last, affiant received a shipment of honey from James Heddon, doing business at Dowagiac, in the State of Michigan; that said honey so shipped and received by the affiant hereof was represented to be a pure and unadulterated article; in accordance with said statement of representation of its purity, did authorize the selling of the same to the trade by his agents. That on or about the 7th day of December, following, one of the affiant's agents was arrested by the State authorities, for offering and selling an adulterated and impure honey, and subpoenaed to appear for trial before a legal tribunal, having jurisdiction in the premises; affiant, in conjunction with said agent, appeared in said Court on the day set for trial, heard the hearing of said agent, and all the witnesses in connection with the case, including that of the State's Chemist.

That the judge, after summing up the evidence, rendered a verdict as charged, and fining said agent \$25 and the costs of prosecution (aggregating the sum of \$64.85), which amount the affiant hereof paid.

Whereupon affiant procured another sample out of said shipment, and delivered same to Prof. Hobbs (being the Professor of Chemistry at the Cleveland Medical College) for further analysis, who, upon performance of the same, coincided with the State Chemist, in pronouncing it "adulterated and impure." Further, affiant saith not.

GEO. G. WILLARD.

Sworn to before me, and by the said George G. Willard, subscribed in my presence this ninth day of February, A. D. 1894.

JOHN C. HEMMETER,
Notary Public.

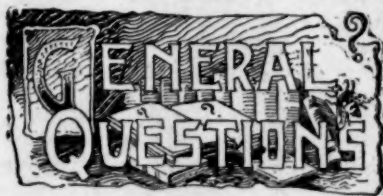
The so-called "cheap honey" Mr. Heddon has been advertising for a number of years, together with his recent utterances on the glucose question, and which we have criticised, seem to give coloring to the statements of the four different chemists.

We have statements from other parties, not depending upon analysis, but think best to withhold them for the present.

In conclusion, we would say that we have given the facts for just what they were worth, and the reader may draw his own conclusions.

A. I. R.

Owing to a lack of space in this number, we are unable to give before next week Mr. Heddon's reply to the foregoing accusations, as we notice that in the following issue of *Gleanings* he has attempted to explain matters.



ANSWERED BY
DR. C. C. MILLER,
MARENGO, ILL.

In this department will be answered those questions needing IMMEDIATE attention, and such as are not of sufficient special interest to require replies from the 20 or more apiarists who help to make "Queries and Replies" so interesting on another page. In the main, it will contain questions and answers upon matters that particularly interest beginners.—Ed.

Colonies that Store Section Honey.

A farmer, who has been keeping bees for a number of years, told me some time ago, that the colonies we now have are not the ones that store the honey for us, or, in other words, that work in sections, but the new swarms are the section workers. Now I would like to ask whether this is true, and if so, is there no way of making the old colonies work in the sections as well as the new (that is, after they are through swarming)?

H. O. J.

Reeseville, Wis.

ANSWER.—The bees you have now are not likely to do anything in sections, for by the time work commences in sections they will probably all be dead—at least most of them. Remember that bees don't live a hundred years—in the busy season they only live about six weeks. The colonies you now have may, and may not, work in sections. When they swarm, hive the swarm on the old stand and move the old hive to a new place, thus strengthening the swarm and weakening the mother colony, and you may be pretty sure the old colony will not work in sections, but if the season is good the swarm will. On the other hand, if you return the swarm to the old hive every time it swarms, you may be pretty sure the old colony will work in sections if the season favors.

You see, it is very much a matter of strength. If the swarm is the weaker of the two, then you may count on the old one doing the best work, and *vice versa*. But what do you care which does the most, so you get it? I think most of those who favor natural swarming expect to get their principal surplus from the swarms, and

consider it policy to make the swarms as strong as possible at the expense of the old colony.

Lately J. F. Gates gave a plan in the *American Bee-Keeper*, which coolly plans to get nothing from the old colony but the swarm, and nothing from the swarm but a crop of honey. The old colonies, which he calls his breeders, are in big box-hives, and being strong they cast early and large swarms. These are hived on the old stand in a small hive, sections put on at once, and if there's any section honey they get it. Then all he asks of the old colony is to get strong again for the next year, at the close of the harvest adding the bees of the swarm to the breeder, melting up the combs of the little hive so as to have it empty for the next year.

Weak Colony—Sorghum—Beets.

On the first day of March I bought two colonies of bees from a man that has been keeping bees for 5 or 6 years. He told me that he examined them, that each colony had a queen, and that they were all right. I brought them home and put them in the grove, on little blocks 2x4x12 inches.

The weather was cold and windy till about the 10th, when I opened the hives and looked them all over. In one hive about half the bees were dead, and not much honey in the combs; some of the combs were jet black, and a lot of dead bees in the cells. It seems as if the bees had crawled in and died, and I couldn't see the queen, so I cleaned out all the dead bees (I took out 4 or 5 handfuls) and closed up the hive.

The other hive I opened next, and in it I found some black comb, but very few dead bees. I found the queen and the hive full of bees, but they had very little honey, so I made two feeders and started to feed some syrup, made according to the directions in Root's "A B C of Bee-Culture."

The bees in the first hive seemed to go up into the feeder, which holds about a pint. I filled it a week ago, and it's only about half eaten. The second colony eats a pint every night.

1. What is the matter with the first colony?

2. Is sorghum molasses good to feed to bees?

3. How are sugar beets for bees, to feed in the raw state, smashed up? J. C. K.
Glenwood Park, Nebr.

ANSWERS.—1. Probably all that ails the weak colony is its weakness. They don't use up the feed as rapidly as the stronger colony, for one thing, because there are not so many of them, even if they work according to their strength. Another thing is,

that they have a smaller cluster and don't keep so warm, so a smaller per cent. are able to leave the cluster. You will find that they may do a little better on the feed if you give it to them very hot. If there was a queen present on the first of March she may be there yet, and in that case you ought to have found some brood present. If the colony was queenless, that would be a good reason for the bees dying off from old age.

2. I shouldn't want bees to have sorghum molasses for winter, but when they can fly every day there's no danger.

3. I don't know anything about beet feeding from experience, but I suspect it would be cheaper to get the sugar out for them than oblige them to do the extracting. Still, it is just possible that at a time when nothing else is to be had, it might be a good thing to keep them exercising on beets.

Italian Drones that Look Black, Etc.

1. The drones from my Italian bees are as black as the ace of spades, but the workers show the three bands. Are the drones pure? If so, what makes them so black?

2. What would be the result if I were to get some Carniolan bees mixed with my blacks and Italians?

3. Don't you think my bees have too much room to winter well, with a hive 10 inches deep, and a story on top 7 inches deep? Had I better take off the top story? Would there be stores enough in the brood-chamber if I did not take any from below? My hives are 18 inches by 12 in the clear, made of one inch stuff, 8 frames to the story.
M. W. G.

Bankston, Ala.

ANSWERS.—1. Hard to tell. If the workers are part of them with three yellow bands and part with less, than they are not pure, and it would look as if there was black blood in the queen, although she may have mated with a yellow drone. If, however, all the workers show the three yellow bands, then you may count the drones pure, even if they are very dark. Drones vary greatly, and their color is not considered a test of purity as is that of the workers.

2. I'm not sure that I can say for certain what, except that I should expect more swarming, and as you are anxious for swarms, that might suit you. But nearly every one who has been in the business for any length of time, is anxious to have bees that will not swarm, and you may be sure that you'll come to be of the same mind.

Whether the addition of Carniolan blood will be desirable in other respects depends somewhat upon the character of the bees you now have, for all Italians are not alike, neither are all blacks, and those of mixed blood are far from being alike. You can only tell by trying what Carniolan blood will do, but I should feel fully as hopeful to get some fresh Italian blood.

3. Here again is a case where you can tell better by trying. The lower story may hold enough stores, but if breeding is kept up late there might be danger. If they are well stocked with honey, I should hardly think there would be too much room with the two stories. I don't know about Alabama, but if they have a long time to winter I should expect them to use more stores than in a colder climate where they could not fly so constantly.

To Would-Bee Advertisers.

There are some people who would be advertisers, but are nearly always bee-hind in getting their bee-lated advertisements into the bee-papers. Bee-fore they know it, the bee-season will be gone and with it their chance to do some beesiness. While the next six months are the best to advertise in, yet the dealer who wishes to do a whole year's business will keep his notice running in the papers more than half the time. Constant advertising pays best, even if the advertisement must be only a small one. Keep your name and business before the people, else they are liable to forget you entirely. Of course the bigger the advertisement, the more likely it will be seen.

A New Edition of "The Bee-Keepers' Guide; or Manual of the Apiary," by Prof. A. J. Cook, has just been issued by the publishers of the BEE JOURNAL. Sixteen thousand copies of this excellent and complete bee-work have already been sold, and it is to-day as standard as ever—Plain—Practical—Scientific. It contains over 450 pages, is beautifully printed, neatly and substantially bound in cloth, and is sent postpaid for \$1.25 per copy; or clubbed with the BEE JOURNAL for one year—both for \$1.65.

It will be noticed that the price hereafter will be \$1.25, instead of \$1.00 as heretofore.

Have You Read page 453 yet?



CONDUCTED BY

MRS. JENNIE ATCHLEY,
BEEVILLE, TEXAS.

No Drone-Comb—Early Breeding.

MRS. ATCHLEY:—If I take all the drone-comb from a colony of bees, and put in worker-comb in its place, will they do well without rearing any drones? or will they tear down worker-comb and rear drones anyway?

My bees are in splendid condition, better than I have ever known them, I think, at this season of the year. I have only lost one colony out of 40. Also, they commenced brood-rearing and carrying in pollen 20 to 30 days earlier this season than I ever have known them in this section. But I do not know whether this will be an advantage or not. I would like to hear what you have to say about it. I am afraid it will turn all my honey into swarms this season.

The winter has been very mild, and I think this the cause of their commencing spring work so early. The first honey-flow that we get any surplus from is in May—from poplar—and we hardly ever get much from this, as it comes when brood-rearing is at the highest. The honey-flow that we calculate on principally, does not commence until July 1st—from sour-wood.

Winston, N. C.

F. B. Efrd.

Friend Efrd, in answering your question regarding drones and drone-comb, I will say that as a rule bees do not tear down their combs to build new of either drone or worker size, and if you have no drone-comb in your hives, and queens that are prolific, or that do not lay drones in worker-cells, you will not have any drone-brood; but you will find it pretty difficult to get solid combs without some little nooks or corners where the bees can build a few drone-cells. But I suppose it can be done.

In regard to your bees being early in starting off, I will say that if you wish increase let them swarm, or make arti-

ficial colonies, or what we call "divide," for short, and build them all up for your honey-flow in July. You cannot well keep your bees from increasing when they are gathering pollen and honey.

JENNIE ATCHLEY.

A Visiting Bee—Cross Bees.

MRS. ATCHLEY:—1. To-day, as I was watching my bees (which are all 3-banded), I saw a little black bee fly down to the hive, and crawl around among the others and entered the hive, and not one of them offered to touch it. Why didn't they object to its going in? They have a queen and plenty of honey.

2. A bee-keeper has told me that the crossiest bees, or hybrids, would produce the most honey. Is that so?

Dorchester, Nebr.

F. C. LEE.

1. Friend Lee, there is nothing strange about the black bee being among the colony of Italians. She may have entered the hive by mistake sometime, and was received as one of the family; or she may have been a robber herself, and wore all the down or yellow off her body, which usually leaves a shiny black bee. The black bee may have come a mile or two, and took up lodging with the colony.

2. I believe it is generally thought by honey-producers that hybrids, or bees a little cross, gather more honey than gentle bees. I have had colonies of gentle Italian bees that beat anything in a yard of 100 colonies. At other times I have had Cyprians and hybrids to gather more honey, but I believe the main secret lies in how the bees get started off in the spring, and what condition they are in at the beginning of the honey-flow. But to "acknowledge the corn" (if I did not get the pumpkins), I am a little partial to cross bees. I may be wrong.

JENNIE ATCHLEY.

The Compression Theory Again.

Yesterday I was overhauling about a dozen colonies that the boys had transferred a day or two before, and found one drone-comb filled with worker-brood, and beginning to hatch. Now, how is this according to the compression theory? Well, I never did for a moment have any faith in the compression business changing the sex, and more than that, I have less faith in the theory that worker-bees have any power

whatever to change the sex of an egg. Do you suppose the workers made a mistake and reared workers out of those eggs that were laid in drone-cells for drones? Tut, tut, bosh!

My notion is, that the queen lays drone or worker eggs at will, just as we can use either right or left hand at will. In other words, it is Nature at work through the mother-bee, that is all.

I know that I have been accused of being dogmatic or positive about some things. This I positively deny, and we will leave off the word dogmatic, and put it that when we *know* a thing to be a fact, and then keep on saying maybe so, or I believe so, etc. Now, I admire any one that has courage to speak right out when they are thoroughly convinced of a thing, and not keep the world in doubt. I do not believe any of us will ever learn ALL about bees, but when we do learn a thing about them that we know beyond a doubt, then let us say so right out. I do not believe in any compression theory having anything to do with the changing the sex of an egg, and I *know* that worker-bees are reared in drone-cells, for I saw it—a whole combful.

JENNIE ATCHLEY.

Destitution in Texas and Other Places.

MRS. ATCHLEY:—I enclose a clipping which is going the rounds of the local papers here in Nebraska, which is somewhat damaging to south Texas. I would like to hear from you through the BEE JOURNAL concerning this subject.

I am very much interested in your writings concerning southern Texas, and I want to have both sides of the subject thoroughly aired, as I am thinking of coming to that country next fall.

Cody, Nebr.

W. L. CHILDERS.

Friend Childers, I have taken time to look the matter up before replying, and find that cattle are dying by the thousand in Star and adjoining counties in this State, and after asking several farmers about it, they say that it is going to prove a blessing in disguise, as heretofore that part of the State has been held by large cattle owners, and would not let it be settled up. Now they are willing to let settlers have the land, and large farming colonies of white people are being formed. Now, you will notice in your clipping that all the losers are *Mexicans*, and you *must* know they are a shiftless people, and we have but few in our county that are located.

Another point is this I have learned: You see it is election year, and the aspirants to office in those districts are in the habit of inducing the plows or slaves from Mexico to come over about a year before election time, and vote them, and then call on our people to feed them. Now I wish to inform you that I cannot find any white people going hungry, and these statements are very much magnified. While it is dry here, and rain is needed, we have fine looking crops—corn and cotton—and people that are up and doing are happy.

You know there are nearly always reports going the rounds that somebody is starving in our United States. It is becoming a common thing, and while a part of it is no doubt true, there are some exaggerations, and I do not see any excuse for anybody starving in this land of plenty.

I have a family now working for me that have come all the way from the State of Colorado in a wagon, and they say people are starving in Colorado, and that this is a paradise compared with Colorado. They say that those miners in Colorado used to get from three to four dollars per day, and each Saturday night would "blow in" all their money, and when the mines shut down they were penniless and starving; and it was their *own* fault, as they might have saved up a neat sum. The newspapers make good use of such reports, and it reflects upon the whole country, or State in which it occurs. Do you see the point?

I am ever ready and willing to help and assist the real needy, and we are to have the poor with us *always*, but this thing of people wasting all their money, then calling upon good, honest, saving and hard-working people, ought to be remedied in some way, don't you think so?

I believe the *honest truth* ought to prevail in all such reports; the details ought to be given, how such people become destitute in such numbers, and what kind of people they are, and all the particulars. I tell you, that I believe that our real American people are too proud and too energetic, and can see into the future far enough, to not get into a starving condition, with but few exceptions; and that the outcasts of other nations are imposing upon us. I may be wrong.

In conclusion I will say there is no one suffering here, that I know of.

JENNIE ATCHLEY.



Top-Bar for Extracting Frame, Etc.

Query 918.—What is the best width and thickness for top-bar of extracting frames six inches deep?

2. How far from center to center should they be spaced?—Ohio.

1. $1\frac{1}{16} \times \frac{3}{8}$ inch. 2. $1\frac{1}{8}$.—J. H. LAREABEE.

$\frac{3}{8}$ of an inch, and spaced $1\frac{1}{8}$ from center to center.—G. L. TINKER.

We follow Langstroth in all that pertains to hives.—MRS. L. HARRISON.

We make them $\frac{3}{4}$ deep by $\frac{3}{8}$ wide, and $1\frac{1}{8}$ from center to center.—DADANT & SON.

1. One inch wide by $\frac{3}{4}$ thick. 2. From $1\frac{1}{2}$ to $1\frac{3}{4}$ inches, as you prefer.—G. M. DOOLITTLE.

1. I don't know, as I produce only comb honey. 2. $1\frac{1}{8}$ inches to $1\frac{3}{4}$.—C. H. DIBBERN.

1. See No. 917. 2. About $1\frac{1}{4}$ inches. I have used a little less with no bad results.—A. J. COOK.

1. We use $\frac{3}{8} \times \frac{3}{8}$ stuff for frames all around—tops, ends and bottoms. 2. $1\frac{1}{2}$ inches.—E. FRANCE.

1. $\frac{3}{8} \times \frac{3}{8}$. 2. If to be used only for extracting, $1\frac{1}{2}$ inches would be a good distance.—R. L. TAYLOR.

I use self-spacing frames with top-bar $\frac{3}{8}$ thick, and spaced $1\frac{7}{16}$ from center to center.—J. P. H. BROWN.

1. I don't know what is the *best width*, but I would use $\frac{3}{8} \times \frac{3}{8}$. 2. $1\frac{1}{8}$ from center to center.—H. D. CUTTING.

1. $\frac{3}{8}$ thick, and wide enough so they shall be $\frac{1}{4}$ inch apart. 2. I don't know. Perhaps $1\frac{1}{2}$ or $1\frac{3}{4}$.—C. C. MILLER.

1 and 2. $1\frac{1}{8}$ inch wide, and at least $\frac{3}{8}$ inch thick at the edges, spaced $1\frac{1}{8}$ inches from center to center.—MRS. J. N. HEATER.

1. I have never used frames so shallow, but for Gallup frames $\frac{3}{8}$ inch square would do. 2. $1\frac{1}{8}$ inches.—S. I. FREEBORN.

1. I prefer to have extracting frames $3\frac{1}{4}$ from center to center (7 in $11\frac{1}{2}$ inches). Top-bar $1\frac{1}{2}$ wide, $\frac{1}{2}$ thick.—J. A. GREEN.

1. Wide enough and thick enough to prevent sagging. 2. Possibly a little further apart than brood-frames, but not much.—EUGENE SECOR.

1. Mine are one inch wide, and half an inch thick, and they seem to be about right. 2. Full $1\frac{1}{2}$ inches. A little more will do.—M. MAHIN.

I would use all extracting combs the same as brood-combs, as it is too frequent we get bulged combs and an ugly affair when we begin to space too wide.—MRS. JENNIE ATCHLEY.

The best width is such as to leave a full quarter of an inch between them when spaced. The thickness should be such as to prevent their sagging. Long frames should be a good half inch.—P. H. ELWOOD.

See answer to No. 917. (What kind of a "top-bar" theory are you trying to spin, Mr. Ohio? Is there another "revolutionary principle" about to be sprung upon the "unsuspecting public?")—W. M. BARNUM.

1. $\frac{3}{4}$ inch wide and $\frac{1}{4}$ inch thick, frames spaced just bee-space apart. 2. I use a 10-frame Langstroth hive, with a $\frac{1}{2}$ -inch dummy in one side, spacing the frames evenly in the space thus left.—J. E. POND.

1. Those I use and like best are $\frac{3}{4}$ of an inch wide, and $\frac{3}{8}$ thick. 2. I use them an inch and $\frac{3}{8}$. That allows the comb to be built out a little beyond the frames, which makes them easier to uncapp.—A. B. MASON.

1. I do not see how this could be known (if there is any difference) unless it was tested by all sized top-bars in the same apiary, with all the circumstances exactly the same, the possibility of which I doubt. 2. $1\frac{1}{4}$.—JAS. A. STONE.

I make them $\frac{3}{4}$ of an inch wide, and $\frac{3}{8}$ inch thick. Too wide a top-bar is in the way of the uncapping-knife. For extracting combs there is no need of having the top-bars any heavier than is necessary to keep them from sagging.—G. W. DEMAREE.

1. I would not use a frame 6 inches deep for extracting. It is no more trouble to handle a larger frame than these small ones, and I cannot understand why any one would use such frames for extracting. 2. They should be spaced so there will be $\frac{1}{4}$ inch between the top-bars.—EMERSON T. ABBOTT.

LANGSTROTH FUND.

[For years, bee-keepers have felt that they owed the Rev. L. L. Langstroth—the Father of American bee-culture—a debt that they can never very well pay, for his invention of the Movable-Frame Hive which so completely revolutionized bee-keeping throughout all the world. In order that his few remaining years may be made as happy and as comfortable as possible, we feel that we should undertake a plan by which those bee-keepers who consider it a privilege as well as a duty, might have an opportunity to contribute something toward a fund that should be gathered and forwarded to Father Langstroth as a slight token of their appreciation, and regard felt for him by bee-keepers everywhere. No amount above \$1.00 is expected from any person at one time—but any sum, however large or small, we will of course receive and turn over to Father L. All receipts will be acknowledged here.—Ed.]

List of Contributors.

Previously Reported.....	\$89 95
Geo. M. Fuller, Oakfield, N. Y.....	1 00
John T. Brown, Sumas, Wash.....	50
Total.....	\$91 45

CONVENTION DIRECTORY.

Time and place of meeting.

1894.	
Apr. 23.—Venango Co., at Franklin, Pa.	C. S. Pizer, Sec., Franklin, Pa.
May 3.—Connecticut, at Hartford, Conn.	Mrs. W. E. Riley, Sec., Waterbury, Conn.

[33] In order to have this table complete, Secretaries are requested to forward full particulars of the time and the place of each future meeting.—THE EDITOR.

North American Bee-Keepers' Association

PRES.—EMERSON T. ABBOTT.....St. Joseph, Mo.
VICE-PRES.—O. L. HERSHISER....Buffalo, N. Y.
SECRETARY—FRANK BENTON, Washington, D. C.
TREASURER—GEORGE W. YORK...Chicago, Ills.

National Bee-Keepers' Union.

PRESIDENT—HON. R. L. TAYLOR..Lapeer, Mich.
GEN'L MANAGER—T. G. NEWMAN, Chicago, Ill.
147 South Western Avenue.

“Foul Brood: Its Natural History and Rational Treatment,” is the title of an interesting booklet by Dr. Wm. R. Howard, of Texas. It also contains a review of the work of others on the same subject. It is being issued at the office of the BEE JOURNAL. Price, postpaid, 25 cents; or clubbed with the BEE JOURNAL for one year—both together for \$1.15. Orders received now.



The Rearing of Good Queens.

Written for the American Bee Journal

BY DR. G. L. TINKER.

Dr. Miller seems to think that a young queen emerging from a cell not less than ten days after the bees commence to give it full attention, ought to be all right, according to the observations of Herr Reepen. It is true that they should be all right since no doubt the queen and worker larvæ are fed upon the same kind of food up to the fourth day, and, theoretically, at least, they should be as good, but practically they are not. And here we have again an illustration of the difference between mere theory and practice.

Dr. Miller seems to have quite overlooked one very important item, and that is the relative amount of food the worker and queen larvæ receive if designed from the moment of hatching. A queen-larva hatching in a queen-cell in a colony making preparations to swarm, is invariably flooded, so to speak, with the royal jelly, while all larvæ designed for workers are invariably scantily fed at the start, or for the first four days.

Now my observation shows that the most prolific, and especially long-lived, queens were abundantly fed during the first four days of the life of the queen-larvæ, and I think I will be fully sustained in this observation by all experienced queen-breeders.

On the other hand, I never saw a good queen that had not been properly fed for the first four days of her life; and I think I was one of the first, if not the first, to rear queens by transferring small larvæ, from 18 to 30 hours old, to queen-cells well filled with royal jelly after the removal of its occupant. These queens would all hatch on the tenth day after, and would often be large and fine, to all appearance. Still, I never reared one in this manner that was extra prolific and long lived, and hence I aban-

doned this way of rearing fine queens, because in developing a new strain of bees, as I have been doing for the past nine years, it became absolutely necessary. The result has been an improved bee, highly prolific, and great workers.

Out of swarming time it is possible to bring about all the conditions for rearing perfect queens as follows:

Catch and cage the queen of a strong colony full of young bees, and take away all of their brood and give them a comb of honey and empty combs. Place the caged queen upon the frame to keep them quiet.

At the end of three days take away the queen in the evening, and the next morning give them a frame of cells with just-hatching larvæ, on the Alley plan. Not more than 20 larvæ should be given them. Now feed them well for five days. Eggs may be given in the same way, but they will not quiet the uproar in the colony like the young larvæ, and black bees have the singular habit of eating all of the eggs, but will accept the larvæ.

Should a comb of just-hatching eggs be given to the colony instead of the 15 or 20 cells prepared on the Alley plan, it will be found in a few hours that every larva in the comb will be swimming in royal jelly, showing that all are fed as if to rear queens, although but 15 or 20 queen-cells will be completed.

Thus reared, I have many times got queens that lived four years, and were highly prolific to the last. With such queens I have obtained the equivalent of two 10-frame Langstroth hives full of brood by the 10th of June, but the ordinary queen would hardly fill eight Langstroth frames under the same conditions.

Of late there has been some talk of having two queens in a hive in the spring to build up large colonies, but from the above it will be seen that one good queen is enough for any colony.

New Philadelphia, Ohio.

Trembling Disease and Spring Dwindling.

Written for the American Bee Journal

BY M. M. BALDRIDGE.

One of my correspondents in Utah, residing in Utah county, writes me, under date of March 12th, substantially as follows:

In the spring of 1892 I had 260 colonies of bees. About May 28th they got the trembling disease, and in about six days all the

bees, old enough to work out-doors, were dead! But the young bees and the brood still remained in the hives. The honey season that year was very short, still I secured about 1,500 pounds of comb honey and 2,000 pounds of extracted. The honey was sent to Chicago, and that which was in the comb netted me $11\frac{1}{2}$ cents per pound.

In April, 1893, I had 220 colonies of bees. On the first of June, owing to spring dwindling, I had only 60 colonies! The spring was so cold and backward there was no more brood the last of May than there should have been the first day of March. I bought 30 colonies in any style of hive I could get, and transferred them to my own hives, and thereby managed to secure 1,000 pounds of extracted honey and 4,000 pounds in sections. I shipped the honey to Chicago, and it netted me a trifle less than 8 cents per pound.

I have this spring 150 colonies of bees in good condition. We winter our bees in Utah out-of-doors and on the summer stands. Owing to spring dwindling nearly three-fourths of all the bees in this region died a year ago. I have been in the bee-business for the past 15 years. The last two years have been the worst in my experience.

Our main crop of honey comes from sweet clover and alfalfa. They both yield about the same quality and quantity of honey, which, when granulated, is about as white as refined sugar.

A few years ago, the latter part of May or forepart of June, the bees in my apiary in Richland county, Wis., began to die off at a very rapid rate. At the time this occurred, if I remember correctly, the bees were very busy bringing in honey, and chiefly from honey-dew. The ground in every direction, in and about the apiary, was literally covered with bees of all ages, both dead and dying. Other bees in the neighborhood, and even in yards miles away, were similarly afflicted.

This condition of affairs came on very suddenly, and lasted for two or three days. Many bee-keepers, myself included, were apprehensive that our hives would all be depopulated of their working force. But about that time there came on a rain-storm which washed away the honey-dew, and then the bees as suddenly quit dying as stated. Now, some of us thought that the bees were in some way poisoned by the so-called honey they were gathering at that time. That is still my belief. Possibly the same trouble existed in Utah, and that it was not in reality the well-known "trembling disease" that was doing the damage to which my correspondent refers.

St. Charles, Ills., March 20.

Building Up Bees for the Honey-Flow.

Written for the Canadian Bee Journal

BY WM. M'EVROY.

I will explain my methods of building up for the honey-flow, which begins with me in the fall.

In the fall I crowd the bees in every colony on six combs of sealed stores, with division-boards on each side of the combs. I then pack each colony in a wintering-case with four inches of dry leaves at each side, front and back, and about six inches on top. I pack the six inches of leaves on the cloth that covers the frames, and then place the hive-lid on top of the leaves, which allows all dampness to evaporate from the brood-chamber at all times. I then cover all with the lid of the winter-case.

The bridge between the hive and outer case has an entrance in it of about $\frac{3}{8}$ high by $2\frac{1}{2}$ inches long. I keep the snow away from the entrance all winter so that the hives won't become filled with steam from the bees, when the entrance gets blocked up with snow. My colonies come into spring booming in bees, and in grand condition for business. Then the brood-rearing goes rapidly on in these packed hives where the colonies do not feel the effects of the sudden changes that so often recur in spring.

In warm evenings in the spring, just before the bees begin gathering honey, I take out the division-boards and fill out the brood-chambers with comb. When removing the division-boards, if I come across any colony a little short of stores, I put in combs with honey, which I always save in the fall for this purpose.

When the bees begin gathering honey from the willows, maples and other early honey-producing trees, I go to work in the evenings and uncapped the honey in every colony, put a queen-excluder and half-story filled with combs on each colony. I then pack all around and on top of the half-story, and then cover all with the lid of the winter-case. During the night the bees in these well-packed hives will rush the uncapped honey into the half-story which will leave more empty combs in the brood-chamber for the queen. Soon after that the combs in the brood-chambers will be filled with brood clear up to and all along the top-bars. The bees will also continue storing honey in the half stories when once started this way.

Last spring my colonies went in for swarming at a lively rate before the

20th of May, after filling 75 half-stories which would average about 20 pounds each, making about 1,500 pounds of honey. As I did not want any increase I raised up the half-stories and put a full story on every colony.

About the first of June I unpack every colony, and leave the winter-cases on to protect the colonies from the sun. Colonies that are packed to protect them from the sudden changes that so often recur in the spring, do much better than unpacked, and for this reason every colony should be packed in the spring, and for booming or building up colonies for the honey-flow, I don't know of any method that will equal the uncapping of the honey in the brood-chambers in warm evenings in the spring when the bees are gathering honey; and then packing every half-story well on the colonies in the packed cases. By doing that, more room will be made in the brood-chambers for brood when the bees remove the uncapped honey into the half-stories so warmly packed. Then by the time the clover begins to bloom, every colony will be booming in bees, and will be in grand order for business, after having gathered a large quantity of honey from fruit-bloom, dandelion and thorn-trees.

Woodburn, Ont., Canada, March 12.

Bees in the South—Feeding.

Written for the American Bee Journal

BY DR. J. P. H. BROWN.

William Cullen Bryant, in his "Thanatopsis," refers to fall as the season of—

"The melancholy days have come, the saddest of the year;
Of wailing winds, naked woods, and meadows brown and sear."

Were he here now to see the "brown and sear" vegetation which only a day ago was green and growing with the life-sap coursing through its tissues, he could well repeat the same rhapsody.

The cold blizzard that has passed from Texas to the Atlantic did its work well in killing fruit, vegetables, and all bee-forage that was any way advanced. The loss to farmers, truckers and bee-keepers will amount to some millions. It is the *most complete vegetable kill* that ever I experienced in the South. The reason was this: A few weeks before, we had warm and most delightful weather, which pushed vegetation forward at a very rapid rate, and all the tissues were

loaded with sap. The bees were breeding very rapidly, and had all the brood they could attend under the most favorable conditions. As it is, it will be some weeks before they can gather anything to speak of, and unless fed, and faithful and prompt attention be given them, hundreds of colonies will perish.

The bulk of the colonies were deficient in stores, and were dependent upon their immediate labor for their support. They must be fed at once. Improvise almost anything for a feeder. Sardine boxes, fruit-cans, etc., answer a very good purpose, if you put in a few sticks to keep the bees from drowning. If the hive is constructed to admit of it, place the feed inside, and feed late in the evening, from a pint to several quarts, depending upon the strength of the colony. Those hives containing the most brood need the most feed. The feeding should be done at least three times a week, and regularly kept up until they can gather from natural sources.

When feeding during a dearth of honey, great care should be taken not to spill any feed on the outside of the hives, or to have the entrance too open to encourage robbing. An ounce of prevention in this matter is worth a pound of cure. Two gallons of water to 20 pounds of granulated sugar makes a syrup good enough for the purpose. You need not fuss and bother with boiling—that is all nonsense. Stir and agitate until dissolved.

Augusta, Ga., March 30.

The King-Bird and Other Bee-Enemies.

Written for the American Bee Journal

BY S. E. MILLER.

The article on the king-bird, by Will A. Bryan, on page 275, has moved me to write a few words in reply.

Every little while some one, in order to be in fashion (I presume), seems to think it necessary to write something very sentimental about the innocent—the very innocent—birds. Some even go so far as to say we should not molest the big-mouthed, noisy crow. The farmer, after he has toiled hard to plant his corn, in due time and with great care, should stand by with arms folded and allow the crows to indulge to their entire satisfaction in pulling up the corn that is just coming through the ground, and pushing up the beautiful green blades, thus causing him to have

to replant, or have only a partial stand, and thereby lessening his crop.

But to return to the king-bird, which Mr. Bryan styles "*Tyrannus Tyrannus*," which, if I am correctly informed, should be *Tyrannus intrepidus*, *Tyrannus* being the genus, and *intrepidus* the species; the genus *Tyrannus*, including a large number of species, among them the thrushes, orioles, and others.

Nearly all the defenders of these birds, that are in some way or other a pest to man, cite as a reason for sparing them, the good they do in the way of destroying insect enemies, yet with all the birds, if the fruit-grower of the present day wishes to be certain of a crop of marketable fruit, he must resort to spraying with arsenites, or other poisons, for if he depends upon the birds to keep in check the codling-moth, the plum and peach curculio, and other equally noxious pests, he will be badly "left."

The farmer, when the chinch bug, the army worm, or the Hessian fly, make depredations upon his growing crops, cannot depend upon the innocent birds to destroy them.

But do not think from what I have said that I am an enemy of the birds that are in no way a hindrance to man. I love to see them, hear their songs, and study their habits, as well as to be able to name the different kinds. No one, who is not wicked, it seems to me, can help admiring their beautiful plumage, and enjoy the elevating influence of their presence.

But to return to the king-bird and his relations to the bee or bee-keeper. I presume the few bees that he destroys would not make any considerable showing in a large apiary, yet if, as Mr. R. says, it is mainly in the early part of the season, when other insects are scarce, that he chooses to subsist on bees, this is only an argument against his kingship, for at this time is when one bee counts for two or three, or perhaps half a dozen, bees later on. However, as I said, the loss to the bee-keeper may be of small moment, but is it doing the fair thing by your bees, to stand by and suffer this vagabond to snap up the busy little workers while they are diligently performing their duties? This assassin, too lazy to hunt for an honest living! Man is not naturally a predaceous being, but when he falls to committing crime and murder, the laws of nearly all civilized nations say that he must pay the penalty with his life.

Again, we know not how often virgin queens are snapped up when going out

to mate, thus causing a great loss to the bee-keeper; not only the value of the queen herself, but without strict vigilance in the apiary, the possibility of the colony becoming queenless, with no means of rearing another, thus causing the weakening or almost certain loss of a colony.

The orioles, thrushes, and cat-birds are often a great nuisance about a fruit farm, often pecking into the largest berry of some new strawberry that the grower is testing. It is here again not the amount that the fruit-grower misses—if they would only eat what they want, and not destroy so much by pecking just once into each large berry that comes under their notice.

The cedar-bird, wasp-wing or cherry-bird, *Bombycilla carolinensis*, is a beautiful bird to look upon, especially if you can see him close enough to examine his crest, and the highly-colored, wax-like feathers on his wings; but let a large flock of these alight in your choice cherry-tree, laden with luscious fruit that will be ready to pick in a day or two, and see how your cherries will disappear! Here again we should be too good, too sentimental and tender-hearted to take down the shot-gun and keep the offender at bay!

Our children are fond of cherries and other fruit; we have cared for the tree for years in hopes of partaking of the fruit we expected it to produce, but here now are the innocent little birds—how can we have the heart to molest them? Now should I fire into that tree with a load of No. 12 shot, from a ten quays gun, and kill a dozen or more of these pretty little thieves, does Mr. Bryan think that they would be missed from the circle? Does he think that the insect pests would be very much more plentiful after that? When we consider the hundreds and thousands of useful birds that are in no way a nuisance to man, it will surely make no difference to kill off a few of those that are destructive to bees, fruit, etc.

Take the wren, swallow, martin, chimney-swifts, the numerous fly-catchers, and a host of others that are always useful in destroying insects, and never attack bees or fruit, and we surely have a number overwhelmingly large compared with the few that we might kill, that are troublesome in one way or other. To wantonly kill birds that are useful to man is certainly sinful, and surely no sane man will dispute it; but when it comes down to defending those that destroy our crops or useful bees, it is certainly going past the limit. We

might as well spare the life of the fox, wolf, hawk, and other beasts and birds that prey upon our stock and poultry, if we wish to be so very sentimental, for were they not so created? Is it not their nature?

Mr. B. cites that the king-birds do not always build their nests near an apiary, as proof that it is not their intention to subsist upon bees. I might ask, does the hawk build its nest, or the fox choose its den, adjacent to any particular farm, with the intention of living off the fowls of that farm? Certainly not. Let us use good common-sense in this matter, and not be too ready to conclude that certain birds are enemies, but when they have proved themselves to be such, destroy them by the most available means, and we will certainly not go far wrong.

Bluffton, Mo.

Tiring-Out Swarms—Queenless Bees.

Written for the American Bee Journal

BY H. F. COLEMAN.

I have been interested in the report of the Cortland Union bee-convention, as published on page 313. The idea of tiring out the bees when swarming, as advocated by Mr. W. Houghlin, is a novel one, and one that will probably work well, but as some one, under his plan, must be present to manipulate the swarming hive, would it not be much less trouble to catch the swarm in a hiving basket? I use the hiving basket, and with great success.

In my home yard I have 60 hives, and they are so situated that I can see the whole yard at a glance; and as soon as a swarm begins to emerge, I take the basket and place it at the entrance of the hive, so as to catch the bees as they come out. I try to catch from one-fourth to one-half of the swarm in the basket, and then by placing the basket in the air among the flying bees, the whole swarm will soon gather and cluster on it, and it is then ready to be carried anywhere, or to any place it is wanted.

With me it makes no difference as to whether the queen is caught in the basket or not—the swarm will cluster on it anyway, and can then be managed. A swarm with a virgin queen, however, requires more attention than a swarm with a laying queen. Virgin queens are more easily frightened, and will take wing quicker than older queens, and in hiving them more care is required.

I have used the hiving basket for three years, and in that time I have had but one swarm to decamp, and that was after it was hived. I never clip the wings of my queens, believing that with a hiving basket and proper attention as good results can be obtained with less trouble.

WHY BEES BECOME QUEENLESS IN THE SPRING.

The question is frequently asked why bees lose more queens in the early spring than any other season of the year, and various are the answers. Some attribute it to one thing, and some to another, but in my opinion the cause is to be found in the fact that the queens at this time are distended with eggs, and are more tender and juicy, so to speak, than earlier in the season, and are consequently more liable to be chilled or frozen.

I have noticed that at the breaking up of a cold snap in the spring, after my queens get to laying, I find more queenless colonies than at any other time. At first I could not solve the problem, as to the cause of this, but after a longer experience, and more thought, I am now satisfied with the conclusion as above expressed.

A CORRECTION.

Did you ever notice what a change can be made in a word by putting into it a new or different letter? In my communication on page 315, by using the letter "i" instead of "o," I am made to say that I have lost *nine* colonies of bees, when it should have been *none*. I am not complaining of the printer, for my chirography is not the best, and my carelessness may have caused the mistake.

Sneedville, Tenn.

True Basis of Those Honey-Predictions.

Written for the American Bee Journal

BY SAM WILSON.

I notice some speculation going on in the AMERICAN BEE JOURNAL as to what my theory is in regard to predicting the honey crop. I will now set all doubts to rest, and tell the best I can what my theory is (or how I tell), for it is no theory with me, but a settled fact.

I found out, eight years ago, that dry weather through November and December here in Tennessee (if it was dry enough), would cause a complete failure of the honey crop; but in the North,

the season for rain or dry weather is longer to produce a failure or a crop of honey. In the North, to produce a good crop of honey, the rain ought to commence as soon as frost kills vegetation, and continue to the first or middle of January, or about three months. This is for linden and white clover in the North; for linden and sourwood in the South, and white clover, too, but clover is no good in the South, farther than Kentucky, as a honey-plant. It has to rain through February for poplar, as the wetter it is, the better it produces.

Because I made predictions on the honey crop of the Pacific Coast, Mr. Johnson thought I meant white clover, and said that plant did not grow there. I knew it did not grow in Southern California—I never thought of any person thinking that I thought Mr. Johnson was better posted than to think white clover did not grow on the Pacific Coast. It grows there, all the same. I knew that the Nevada bee-keepers got their principal crop from alfalfa.

When Mr. Johnson undertakes to "do up" any one again, as he claims or thinks he "did up" what he calls the "Tennessee Honey Prophet," I would advise him to try to know something of what he is talking about, and not get so humorous, and so full of conceit.

If bee-keepers will watch, they will see I am right. I would like to tell how I first learned the true cause of flowers failing to produce nectar. Snows before a good year, and exceeding dry weather before a bad year, got me started on the right track. Snow is better than rain, by its keeping the ground wet all the time, if it is deep enough to melt at the bottom. Rain is as good, if it would rain often enough, but that is the trouble, especially with clover.

Cosby, Tenn.

Co-operation of Experiment Stations.

Written for the American Bee Journal

BY H. W. SCOTT.

The question of State experimental apiaries is one that deeply interests me, perhaps more so since we have had one in our State. But to confine myself to the subject, "Co-operation in the management of experimental stations."

To-day the experiment stations that have made apiculture a branch, are practically all in the North. But the stations are wide apart, as we go the other way, from Vermont or Rhode

Island in the East, to California in the West.

The bee-keepers in each State are the ones that should say what experiments shall be tried at these stations; and while they may require *some* that would have a local interest merely, others will doubtless be tried, that a knowledge of would aid Vermont as much as California.

In Vermont the State Bee-Keepers' Association elected a committee of three, who are to receive suggestions and recommendations for experiments, and then decide what ones shall be tried. I think Michigan has a similar committee.

Now I would suggest that it would be well if these committees (or whoever has the experimental work in charge in the various States) would communicate freely with each other. Would it not be a good thing for us here in Vermont, if we knew what experiments were to be tried in Michigan the coming season, and for them to know what we are going to try? Might it not assist us in our work? I for one would be glad to know what is going to be done in each of the other stations the coming summer in the line of apiculture.

The trouble and expense of this communication would be slight, in this day of the typewriter and its capabilities in manifolding.

I simply wish to place this matter before those interested, and if it has any points that recommend themselves to them, they can be acted upon speedily. I wish to hear from others on the subject.

Barre, Vt.

Darwin and Bees—Reply to a Criticism.

Written for the American Bee Journal

BY REV. L. J. TEMPLIN.

On page 215 I quoted some statements from the writings of Mr. Darwin on the habits of bees that do not accord with what is now known to be the facts in the case. On page 341 Mr. Chas. Dadant offers some criticisms on my article.

I say: "As I understand it, every egg that is laid and hatched is a birth." Mr. D. takes exceptions to that statement, and appeals to Webster to show that I am wrong. He quotes the 4th and 8th definitions of the word "birth," as given by that author. I quote from the edition of Webster's Unabridged Dictionary, edition of 1861, about the time Mr. Darwin wrote:

"1. The act of coming into life, of being born."

"That which is born; that which is produced, whether animal or vegetable."

"5. The act of bringing forth."

Now, on this high authority I affirm that every living being that has an independent life, began that life by a birth. Will Mr. Dadant deny? I further affirm that every bee that lives has a separate birth from every other living thing, and consequently, that there are thousands of births for each sexual union between drones and queens. Will Mr. D. deny? I therefore repeat, that when Mr. Darwin says, "All vertebrate animals, pair for each birth," he is away off from the truth.

Mr. D. seems to think that I do Mr. Darwin injustice in calling some of his statements "mistakes." Well, let us see how much better Friend D. has done for the honor of the great man. He says:

"Darwin was not a bee-keeper; therefore, it is not astonishing that he did know neither the parthenogenesis nor the ways used by bees to build combs."

And again: "When Darwin wrote his book on the 'Origin of Species,' in 1859, the theory of Dzierzon, on the parthenogenesis of bees, was yet in its infancy, and was not yet accepted by all bee-keepers; so it is but natural that Darwin did not understand it; for the most learned men cannot be acquainted with all kinds of knowledge." This is just what I said—that Darwin wrote on that of which he was ignorant. "Thanks, awfully," Bro. D., for thus corroborating my statements. And do you still think it better "to be blindly led by a great name," who makes such blunders, than "to use one's brains and eyes?"

Leaving my article, Friend D. plunges into a defense of Darwinian evolution, as though he thought it in imminent danger of destruction. Whether this is a subject for discussion in a bee-paper, is for the editor to determine. But having admitted it in a criticism of my article, I ask space for a few remarks.

Mr. Dadant says, "The ideas put forth by Darwin on evolution, are now admitted as true by all the savants of Europe and America. They are so rational, so much sustained by recent discoveries, that they cannot be any more contested."

The above statement indicates that the writer has confined his reading on this subject too much to one side. In the first declaration he is contradicted by the facts. Some of the most eminent scientists of the day have not only not

given in their adhesion to the Darwinian hypothesis of evolution, but have opposed it, on scientific grounds, with all their ability. Mr. Dadant, being a Frenchman, ought to know that scientists of his native country have been very slow to indorse Darwin's theory of evolution. I need name but one—A. De Quatrefages, author of "The Human Species," and one of the leading anthropologists of the world, who has written extensively against evolution. Rudolph Virchow, of Germany, is one of the foremost pathologists and scientists of this age, and has given long and patient study to the claims of evolution, and the proofs upon which it is supposed to rest; and as his mature conclusion he declares that "Evolution has no scientific basis to rest upon." These men represent a large number of names of less note in Europe who share their views on this subject.

In America, I will mention only a few of many who have not accepted Darwin's hypothesis. The late Louis Agassiz, the father of advanced science in America, who spent the latter years of his life combatting, with all the powers of his giant intellect, the hypothesis of evolution, which he regarded as the most dangerous scientific heresy.

Dr. Wilford Hall, of New York, has written largely and ably against Darwinism. Prof. Dawson, of McGill College, Canada, has been, from the first, one of the stoutest and ablest antagonists of the evolution doctrine. These leaders, whose reputation as eminent scientists is world-wide, are followed by many of respectable scientific attainments. And yet we are told that the doctrines of evolution "are now admitted as true by all the savants of Europe and America!"

Again, we are told that these ideas "are so rational, so much sustained by recent discoveries, that they cannot be any more contested." They can't? But my friend, they are contested, and that, as I have shown, by some of the ablest scientists of the age. The fact is, Darwinism has not advanced beyond the hypothetical stage yet. Demaillet, in 1748, taught that animals by changing their habitations and environments, changed their natures and instincts. At the beginning of this century, Lamarck taught that both the instincts and organs of animals are modified by the habits of the animal. Later came the author of the "Vestiges of Creation," with the theory that a prolonged gestation would carry an animal forward to a higher sphere than it would otherwise

have attained. All these fancies being laughed out of court, Mr. Darwin next comes forward to try his hand.

To be brief, I have the following objections to offer to Darwinism:

1st. There is not a single example on record, either living or fossil, of the undoubted deprivation of one species from another.

2nd. The wide distinction existing between the different species proves distinct origins.

3rd. All hybrids are either sterile, or have but a limited fertility, and progeny either becoming extinct or reverting to one of the parental types.

4th. It is defective, in that it can give no account of three of the most important facts of living beings, especially of human beings, namely:

1. The beginning of life.
2. The beginning of reason.
3. The beginning of the religious sense.

Read "Scientific Sophisms," by Wainright.

Canon City, Colo.

[Of course, a full discussion of the Darwinian theory of evolution would be entirely out of place in a bee-paper, but as Bro. Dadant was permitted to have his "say" on the subject, it is no more than fair that Bro. Templin should reply. So this will be a good place to stop, so far as the BEE JOURNAL is concerned.]

If desired, those who wish to do so can carry on the discussion by private correspondence, or in periodicals published in the interest of philosophical research.—EDITOR.]

Science of Mating Queens Discovered.

Written for the American Bee Journal

BY R. S. RUSSELL.

I have read, on page 144, Mr. Armstrong's most able article on non-swarming strains of bees. The above topic is beyond all doubt the great missing link to successful bee-culture, and the characteristics of all bees must continue to be very uncertain, and partially developed, until this link is supplied, and thoroughly understood, whereby any desired characteristic may be surely and fully developed.

Mr. Armstrong very truly avers that

the person solving this most important mystery will confer as great a favor to bee-culture as did Father Langstroth in giving us the movable frame. Yet I ask, is he not even greater by solving a more important problem—one that not only has puzzled the venerable Father, but also all the wise bee-men of the earth? and shall he not be crowned king of kings when he shall have given to the world the solution? If so, all hands up!

I will add that I am not yet authorized to give either the formula, or name of my friend, but I will state that as Christ usually chose teachers of his wisdom from the ranks of the poor fishermen and bee-hunters, so I fully believe He has done in this instance, in the person of a poor, illiterate, old, but very wise, bee-master of Indiana, who, a few days since, gave me a statement of the simple formula by which any bee-keeper of ordinary knowledge in queen-rearing is enabled to see, with his own eyes, his queens fertilized, and with drones of his own selection, with much less fussing or trouble than other domesticated live stock.

Now, then, if this is a fact, of which I have not a doubt, shall not the spring of 1894 be the date of a new era in bee-culture throughout the world, with new and redoubled enthusiasm in the breast of every queen-breeder and bee-keeper? And what may we not expect in the near future, by this great revolution? And how shall we properly reward this greatest benefactor of our industry? This is the main question at this time, and seems a very proper one to be presented to the "Query Department" for solution. The discovery should not, and could not, be protected by patent, but will be given to the world at once if a liberal reward is pledged the donor when the fact shall have been proven in a satisfactory manner.

Zionsville, Ind.

Feeding Bees at the Top of the Hive, Etc.

Written for the American Bee Journal

BY C. E. MEAD.

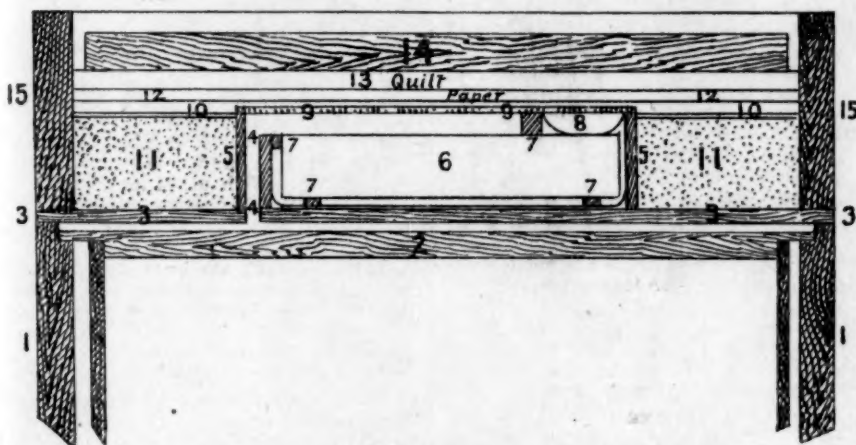
On page 73, F. N. G. of Guthrie, Okla. Ter., asks how to feed bees at the entrance. Dr. Miller answers that completely. But why feed at the entrance, and perhaps start robbing and have to wait for warm weather? Feed at the top! With a wooden feeder and a tin reservoir, with the sides waxed so

the bees can walk up it, and perpendicular $\frac{1}{4}$ inch slats $\frac{1}{2}$ inch apart, for the bees to walk up and down on.

Make a box of $\frac{1}{4}$ -inch stuff 8x10 inches, and $2\frac{1}{2}$ inches deep. Make one partition $2x7\frac{1}{2}$ inches, and nail this even with the bottom, and 1 inch from one end. Now make a tin box $8\frac{1}{2}x7\frac{1}{2}x2$ inches, and push it down even with the bottom. Fasten with four small tacks near the top of the tin box, one in each side. Cut nine pieces $8\frac{1}{2}x1\frac{1}{2}x\frac{1}{4}$ inch, space them equidistant, and tack two $\frac{1}{2}x\frac{1}{2}x7\frac{1}{2}$ inch strips on the edges near each end, turn them over and tack one on top near the center,

pack around the feed-box warm sawdust, chaff or any good dry non-conductor, even with the top of the box. Slip the thick paper over the feed-box. This will keep the packing in place. Have several old newspapers and a quilt or heavy blanket ready.

Have the feed as hot as you can hold your finger in it. Draw back the glass 2 inches from the wire-cloth end. Pour in the feed until it is near the top of the tin box. Slide back the glass, cover with the newspapers folded to fit, then with the heavy cloth, and a board on top of that. That hot feed will warm up the top of the hive so that the bees can be



Cross Section of Hive, Showing Top Feeder Arrangement.

1. Brood chamber.
2. Brood-frame.
3. $\frac{1}{4}$ -inch pine board.
4. Opening for the bees to go to the feed.
5. Feeder.
6. Rack of $\frac{1}{4}$ -inch boards, in the tin box.
7. Cleats nailed to the $\frac{1}{4}$ -inch boards to keep them in position.

8. Wire cloth to pour the feed through.
9. Glass, 10x8 inches.
10. Heavy paper over the packing.
11. Sawdust.
12. Newspapers.
13. Quilt.
14. 1-inch board.
15. Section-case.

and one $\frac{1}{2}x\frac{1}{2}x7\frac{1}{2}$ inches 2 inches from the end. To the side of the $7\frac{1}{2}x\frac{1}{2}x\frac{1}{2}$ tack a strip of coarse wire-cloth, fine enough to keep the bees down— $7\frac{1}{2}x2\frac{1}{2}$ bent like this —

Now slip this rack down into the tin box, the wire-cloth at the opposite end from the partition, cover the box with an 8x10 inch glass. Now cut a hole in the quilt or cover $7\frac{1}{2}x1$ inch. Cut a hole in a thick paper the size of the feed box, and the paper to the exact size of the super inside. Now put on the super, or a rim of wood, and bed the joints in clay or plaster of Paris. Now put the feed-box on so the $7\frac{1}{2}x\frac{1}{2}$ inch space just fits the hole in the quilt or cover. Now

fed in freezing weather. Contract the entrance to $\frac{1}{2}$ inch.

This feeder can be put on in the fall and left until the next year, until the supers are needed, and you can feed much or little. A large coffee-pot or tea-kettle is good to pour from.

LOOK OUT FOR YOUR BEES.

The warm weather we have had and early pollen have started them to breeding finely. Now comes this cold snap, and we may have more to follow. It is necessary that they should be packed warm, or the brood is liable to be chilled. Pack now, if you have not done so. You cannot get them too warm at

this time of the year. See that they have plenty of honey. If not, feed.

You cannot pack too warm on top, if you allow the air to blow freely over the packing. I have two 2-inch holes in each gable end of cap, and a solid $\frac{1}{4}$ -inch pine cover over the frames, and no upward ventilation. You bee-keepers whose hives have upward ventilation, and a wind like this, if your hives face the wind it will just make the chaff boil, and if you find the bees dead, and as near the top as they can get, with but little daubing of combs, and plenty of honey in the hive, you may know that upward ventilation killed them.

With a full sized entrance, and packed from 4 to 6 inches on the sides and ends, and from 8 to 12 inches on top, with a $\frac{1}{4}$ inch sealed cover over the frames, a thin or loose-jointed packing case (not painted), so the packing will be dry, two 1-inch holes over the top, and a good roof, with plenty of honey, I don't care if there are 50 pounds, your bees are fixed to give you a profit if there is any honey to gather.

Do not support the frames on single wire nails, unless you have wide end-bars, or something to keep the bottoms stationary. The bees often load one side with honey, and the other with brood, eggs and pollen. If on a pivot at the top, the bottom-bars will swing together, often killing the brood in both frames where they touch, and compelling the bees to cut away the combs and haul out the brood.

Chicago, Ills., March 24.

Convention Notices.

CONNECTICUT.—The Connecticut Bee-Keepers' Association will hold their 3rd annual meeting at the Capitol at Hartford, on Thursday, May 3, 1894. Mrs. W. E. RILEY, Sec. Waterbury, Conn.

PENNSYLVANIA.—The Venango County Bee-Keepers' Association will meet in the City Hall at Franklin, Pa., on Monday, April 23, 1894, at 1 o'clock p.m. All interested are requested to be present. C. S. PIZER, Sec. Franklin, Pa.

The Amateur Bee-Keeper,

is the name of a neat little pamphlet designed for the class its name indicates—amateurs and beginners in bee-keeping. It is written by Mr. J. W. Rouse, of Missouri, a practical apiarist and helpful writer. It contains over 60 pages, and we will send it postpaid for 25 cents; or club it with the BEE JOURNAL for one year—both for only \$1.15.



Do not write anything for publication on the same sheet of paper with business matters, unless it can be torn apart without interfering with either part of the letter.

A Very Encouraging Report.

I commenced the season of 1893 with 80 colonies, increased to 124, and sold 8,000 pounds of clover honey—2,000 pounds of extracted, and 6,000 in one-pound sections. The extracted sold at 8 to 10 cents per pound, and the comb from 12 to 13 cents. The best yield from one colony (no increase) was 211 pounds in one-pound sections, and it has wintered all right. The best yield from one colony previous to 1893 was 259 pounds, which sold for 18 cents per pound, and together with a premium of \$4.00, amounted to \$50.62.

My bees are all "blacks." The first colony came from a hollow tree 37 years ago, and I haven't bought a bee since, but have sold a great many. GEO. S. CHURCH.

Allenville, Wis., March 26.

Early Spring—Gathering Pollen.

We have had fine, warm weather for the last few weeks, and bees began gathering pollen quite rapidly, but were suddenly checked by a cold wave passing over us during the last few days. I noticed bees were gathering small quantities of pollen March 8th, so that speaks pretty well for this northern climate.

I wintered a part of my bees on the summer stands, and part in the cellar, but removed the bees from the cellar on March 21st, but the winter has been so mild that I think the bees wintered fully as well on the summer stands. I have wintered my bees without losing any colonies so far, but a great deal depends upon the weather during the coming spring months.

CHAS. E. ROGERS.

Dorchester, Ont., March 24.

Spring Notes from the Apiary.

Our bees are in good condition, and are doing well. They are gathering pollen right along, and also some honey. The elm trees are beginning to get green, and spring is coming. This was the mildest winter we have had for several years. We had only two days that the mercury was below zero. As I am writing to-day (March 19th) it is cloudy and rainy. We had a nice rain last night, and I think we will have more to-

night. I hope we will have a good honey-flow this year, and that the bees may prosper.

I see in the BEE JOURNAL a great deal of talk about skunks in the apiary, and there are also very many ways of exterminating them. In this part of the country we are not bothered with those pests. We rarely get to see one, unless it is one that went astray.

I have 2 colonies of Italian bees that are the nicest I ever saw. They have several frames of hatching brood, and are so gentle. I have not received a single sting from them yet.

I do not believe I could keep bees if it were not from the AMERICAN BEE JOURNAL and *Gleanings*. There are not very many bee-keepers around here that will take a bee-paper; they let their bees go the way of "work bees or die." One thing is sure, not one of them ever has any surplus honey at the end of the season.

If you want a nice, large bee-book, just save the numbers of the AMERICAN BEE JOURNAL for one year, and see if you will not have a 1,664-page book at the end of the year.

The editorial given on page 199, on "Heddon and Adulteration," strikes me about right. By all means, do not stop the cry of adulteration! Give it to them; make it hot for the adulterators, and see if it doesn't do some good. Keeping still about such a thing is so much the worse. Again I say, do not give up the battle, for we may win yet. We have no honey market at Prairie Home, and need not be afraid of adulteration. Honey around here sells at 12 and 15 cents per pound for comb honey, and I think about 10 cents for extracted.

I have both the Simplicity and the dove-tailed hives; the latter is my favorite. I like the thick-top frames and the section-holders very much. I have not tried separators yet, but I think I will try them this year. F. N. BLANK.

Prairie Home, Mo., March 19.

How to Dampen Sections.

Lay a double fold of sheeting between two beveled pieces 8 or 10 inches long, and tack them together. Place the sections side by side, have a small quantity of water in a tin pan, and dip and move through the grooves. It can be done without wetting a finger. MICHAEL HAAS.

Mendon, Mich.

How I Manage My Swarms.

After my young queens have mated, I clip one of their wings; I usually do this about the first of May. I get my hive ready to receive the swarm and set it by the side of the hive, or near by, at least. I am on the lookout for the swarm, and when it issues I find the queen on the ground near the hive, with a few bees with her. I cage her in a Miller's cage, and lay her on the entrance of the new hive, and remove the

old one to a new location, and close it so no bees can get in. I then put the new hive on the old location from which the old one was taken, and if the swarm does not settle, they will by this time be returning, and will enter the new hive. As soon as they begin to enter pretty lively, I release the queen and let her crawl in, and the work is done.

If the bees settle, I wait till they begin to return to the hive as before, which they do in a short time, usually. The other hive is then opened.

In this way I get the field-bees in the new hive, which gives good results in surplus honey, and has an effect on the old colony to prevent after-swarms. I give plenty of room to the old colony in the surplus department, keep them well shaded if I fear an after-swarm, and should such occur, I hive in a hiving-box and set it on a board as though it was a little box-hive. I then cut out all queen-cells in the old colony (provided I can find all) and return the swarm to the old colony.

J. W. SOUTHWOOD.

Monument City, Ind., Apr. 2.

Mild Winter—Virgin Queens.

The past winter was a mild one. Bees on the summer stands have had frequent flights, and wintered nicely. The forepart of March was delightful weather, bees were bringing in pollen gathered from maple and willow bloom three weeks earlier than usual, and brood-rearing commenced in earnest. I have 80 colonies, but 6 of them did not show the usual signs of prosperity. On examination I found them all queenless. I doubled up, making 3 strong colonies, and gave them each a frame of brood.

To-day finds me with 3 virgin queens, and no drones, but snow and ice and sickly bloom. What are the prospects for success with my early queens? If drones from laying workers are not sterile, I hope to have some to mate with the virgins.

A. B. BAIRD.

Belle Vernon, Pa., March 26.

Discouraging Weather.

From March 2nd to the 24th bees brought in pollen about every other day. I never saw them breed up faster so early in the season. Our pears, cherries and plums were just getting into bloom, and the bees working on them a little, when on the morning of the 24th it turned cool, and kept getting colder until yesterday morning the mercury was at 14 degrees above zero, and all day yesterday below the freezing point, though the sun was shining brightly all day. This morning it is 12 degrees above zero. Of course all the fruit just blooming is killed, and the bees will have little or nothing to work on for months, and probably much brood will be killed by the excessive cold. It is no use to cry over spilled milk, but our bright prospects have gone under a cloud for the present.

E. T. FLANAGAN.

Belleville, Ills., March 26.

Gathering Pollen—Alsike Clover.

I have 35 colonies of bees, and they have wintered well on the summer stands. They have been gathering pollen for two weeks. The last two years have been poor for honey here.

Is Alsike clover a good clover for honey? Does it yield as good honey as the common white clover? I have 40 acres growing, but it is young, and I have not seen a field of Alsike in bloom. I want to run 12 colonies for comb honey this year, and 23 for extracted. I use the Langstroth hive No. 2, and I like it very much. C. W. TANNER.

Williamstown, Ky., March 25.

[Yes, Alsike clover is a most excellent honey-plant, and judging from the reports given in the past, it is equal if not superior to white clover as a honey-plant.—EDITOR.]

Came Through All Right.

Bees are wintering well in our locality. I put 41 colonies in winter quarters, and all have come through all right.

ISRAEL OVERHOLT.

South Cayuga, Ont., April 3.

Wintered with Small Loss.

Bees here in New Hampshire have wintered with a very small loss, both in the cellar and on the summer stands, and also in trees.

C. W. GERRISH.

Rochester, N. H., April 4.

Results of the Past Season, Etc.

On Nov. 8, 1892, I put 68 colonies of bees into winter quarters—29 in the cellar under a log house, and 39 in the cave or side hill cellar. The temperature soon went down to 38 degrees above zero, and staid down all winter. Once I found it down to freezing, when I put a stove on the stairs, and ran a pipe through the doors and out the ventilator, and warmed it up to 50 degrees. I did so a number of times, but it staid cold and damp.

The weather was fine the last of March, and the 3rd of April, 1893, was nice. Willows were budded, and summer birds had come, so I put out the bees, and they had a good flight on April 3rd and 4th; then it turned cold and wet, and on the 18th we had a foot of snow, and on the 26th 4 inches more, but on the 5th of May the bees were gathering pollen. Then I opened the other cellar and put out 29 more colonies. They had been dry and above 40 degrees all winter (you see they had been in there six months lacking three days), and I lost no bees until after I put them out, and no diarrhea was in either case. So I don't think cold or damp will cause it. But it staid cold and wet until June, and they spring dwindled or something else. I kept doubling up, and 40 colonies were all I saved, and the most of them were very

weak. I increased to 45, and got about 700 pounds of comb honey.

In November, 1893, I put the 45 colonies in the cellar under my new house, which is dry and warm, the temperature staying about 40 degrees all winter. The first of this month was warm, and it got too warm in the cellar, and the bees became uneasy. The 17th was a summer day, and the summer birds had come again; some farmers were plowing and sowing grain, and everything seemed to say, "Spring has come." The temperature was up to 50 degrees in the cellar, so I put the bees out again. They were all in good condition, and they enjoyed a good flight. Then it clouded up, and rained and snowed, and now for three days the temperature has been down to zero again, and I have returned one-half of the bees into the cellar.

I never have lost any bees in wintering. I pack a case full of dry leaves, and put it on top of each one, and leave the entrance open; that keeps them dry and warm.

I am well pleased with the AMERICAN BEE JOURNAL, and I tell every one I know, who has a colony of bees, to take it. Mrs. Atchley's department is worth the cost of the BEE JOURNAL. GEO. H. AURINGER.

Bonniwell's Mills, Minn., March 26.

Honey Prospects in Tennessee.

The prospect for a honey crop in this locality for this year seems now to be blighted. We have just had a blizzard that has killed all young vegetation. Peaches, pears, plums, and other small fruits were in bloom, and the red-buds and apples were beginning to bloom when the blizzard struck here. The spring had been very fine, and vegetation was earlier than usual, but with the mercury down to within 16 degrees of zero, three nights in succession, it withered completely.

The fruit-bloom has always been considered our foundation for a honey crop in this locality, and with it blighted as it is, our only hope is in feeding. The bees are flying to-day, but are gathering no pollen.

H. F. COLEMAN.

Sneedville, Tenn., March 28.

Had Some Cold Weather.

We have had some cold weather for the past week, but previous to that time it was very warm, and bees were carrying in an abundance of pollen, and I suppose some honey, from elm and other trees.

O. K. OLMSTEAD.

Orleans, Nebr., March 27.

The Prospects in California.

Mr. P. L. Norton, of Pennsylvania, paid me a visit yesterday. He was surprised to see the bees in my yard so far advanced toward swarming. It was quite a contrast to what the bees are doing in the East at this time.

The season has been somewhat backward

here this winter. The spring has opened up fairly well. Though we had plenty of rain during the winter, the late March winds dried the ground up so rapidly that it began to look as if the coming season was to be a dry one. To-day there are indications that we are soon to have more rain, and then everything will be all right. But down in the southern part of the State I understand that the season is a dry one, and that the indications point to a poor honey season. This might be expected, for it is rare to have two good seasons in succession.

W. A. PRYAL,
North Temescal, Calif., March 26.

Bees in Fine Condition, Etc.

I have 65 colonies of bees, and all are in fine condition. They are rearing brood fast. I did not feed my bees any the past winter. I have 84 frames of honey to put new swarms on. I have some fine golden queens, and 60 hives all ready made, and painted nicely; so you see I am "loaded" for the swarming season. When is the time to sow sweet clover seed? I have some alfalfa clover, and it will bloom in a few days. My father, R. Davenport, has been in the bee-business 64 years. I think I am learning bee-ology very well. I have not much book-sense, though I have made a success of the farm, and why not make a success of bees? F. J. R. DAVENPORT.

Nash, Tex., March 24.

Honey & Beeswax Market Quotations.

CHICAGO, ILL., Mar. 24.—The honey market will be very quiet for the balance of the season. We will not do much business until new honey comes in. We cannot quote prices but will obtain the best possible price on what little stock we will sell until early fall. Beeswax is very active at 25@26c. J. A. L.

ALBANY, N. Y., Mar. 23.—The honey market is very slow now. The demand is about over on comb. Some extracted wanted at 6c.; if dark color, 5c.

Beeswax, 26@27c.

H. R. W.

CHICAGO, ILL., Mar. 15.—There has been a good deal of comb honey sold in the last few days, so that our stock of the best grades is now reduced. We obtain 14@15c. for choice white. Dark is hard to move at 10@12c. Extracted is very quiet, selling at from 4@7c.

Beeswax is in good demand at 23@25c.

R. A. B. & Co.

CINCINNATI, O., Mar. 20.—Trade is dull. Prices of honey are nominal. We quote 4@8c. for extracted, and 12@15c. for choice white comb.

Beeswax is in fair demand, at 20@25c. for good to choice yellow.

C. F. M. & S.

KANSAS CITY, MO., Apr. 6.—We have had an exceedingly slow trade on honey this season, and prices ruled comparatively low. We quote to-day: No. 1 white comb, 1-lb., 14@15c.; No. 2, 13@14c.; No. 1 amber, 12@13c.; No. 2, 10@11c. Extracted, 5@7c.

Beeswax, 20@22c.

C.-M. C. Co.

List of Honey and Beeswax Dealers,

Most of whom Quote in this Journal.

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J. A. LAMON, 44 and 46 So. Water St.
R. A. BURNETT & Co., 161 South Water Street.

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F. I. SAGE & SON, 183 Reade Street.
HILDRETH BROS. & SEGELKEN,
28 & 30 West Broadway.
CHAS. ISRAEL & BROS., 110 Hudson St.

Kansas City, Mo.

HAMBLIN & BEARSS, 514 Walnut Street.
CLEMONS-MASON COM. CO., 521 Walnut St.

Albany, N. Y.

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CHAS. DADANT & SON.

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| No. 2 —Six Fay Prolific Currant.... 1 | |
| No. 3 —Eight Gregg Black - Cap Raspberry..... 1 | No. 9 —1 Snyder Blackberry, 1 Fay Prolific Currant, 1 Gregg B. Raspberry, 2 Cuthbert Red Raspberry, and 2 Iowa Beauty Strawberry.... 1 |
| No. 4 —Eight Cuthbert Red Raspberry..... 1 | |
| No. 5 —3 Industry Gooseberry 1 | No. 10 —2 Snyder Blackberry, 2 Fay Currant, 2 Gregg Black Raspberry, and 2 Cuthbert Red Raspberry.... 1 |
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13A26t *Mention the American Bee Journal.*

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